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(54) Title: METHODS FOR PRENATAL DIAGNOSIS OF CHROMOSOMAL ABNORMALITIES

(57) Abstract: Chromosomal abnormalities are responsible for a significant number of birth defects, including mental retardation. The present invention is related to methods for non-invasive and rapid, prenatal diagnosis of chromosomal abnormalities based on analysis of a maternal blood sample. The invention exploits the differences in DNA between the mother and fetus, for instance differences in their methylation states, as a means to enrich for fetal DNA in maternal plasma sample. The methods described herein can be used to detect chromosomal DNA deletions and duplications. In a preferred embodiment, the methods are used to diagnose chromosomal aneuploidy and related disorders, such as Down's and Turner's Syndrome.

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